

DELHI PUBLIC SCHOOL, JAMMU

Month : April, 2021 Assignment

CLASS: XII

SUB: CHEMISTRY

Topic: SOLUTION (Ch. 1)

Based on your understanding of the E- Lectures-cum-PPT's, video links and other e-resources shared with you, answer the following questions.

- Q1: Define molarity, how it is related with normality? (1)
- Q2: If the density of some lake water is 1.25 g /ml and contains 92gm of Na^+ ions per kg of water. Calculate the molality of Na^+ ion in the lake. (2)
- Q3: An aqueous solution of 2% non-volatile exerts a pressure of 1.004 Bar at the normal boiling point of the solvent. What is the molar mass of the solute? (2)
- Q4: Define the following terms. (2)
- Mole fraction
 - Molality
- Q5: Vapour pressure of CCl_4 at 25°C is 143 mm Hg. 0.5 g of a non-volatile solute (mol. wt. 65) is dissolved in 100 ml of CCl_4 . Find the vapour pressure of the solution. (2)
(Density of $\text{CCl}_4 = 1.58 \text{ g/cm}^3$)
- Q6: 250 ml of sodium carbonate solution contains 2.65g of sodium carbonate. If 10 ml of this solution is diluted to one litre. What is the concentration of resultant solution? (2)
(mol. Wt. of sodium carbonate=106)
- Q7: Two liquids A and B boil at 120°C and 160°C respectively. Which of them has higher vapour pressure at 70°C ? (2)
- Q8: A solution of ethanol in water is 1.6 molal. How many grams of ethanol are present in 500g of the solution. (2)
- Q9: Vapour pressure of two liquid A and B are 120 and 180mm Hg at a given temperature. If 2 mole of A and 3 mole of B are mixed to form an ideal solution, calculate the Vapour pressure of solution at the same temperature. (2)
- Q10: A solution contains 25% water, 25% ethanol and 50% acetic acid by mass. Find mole fraction of each of the component. (3)

You-tube Links:

- <https://youyu.be/ltirLC4AD2E>
- <https://youtu.be/3vwSPIDrgtU>

Send your assignment answers to their respective subject teachers through whatsapp.

Note:

- Students must mention their name, class/section and date in their assignments
- Your assignment will be marked for Internal /Term assessments. Therefore, it is necessary for you to submit it on time.

